

146133

Friday, May 06, 2016 9:00:24 AM

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

~

Customer:

Reference:

Run Start *NR1*

Approvals: Process Plan: Em Date: 16/05/09 Tooling:

Date:

QC: _____ Date: _____ SPC (Y/N): _____

Date:

Stop *NR2*

**Insp.
Stamp**

B

0.00

100

Packaging

Memo

0.02

Packaging

110

0.00

110

Small Fab

Memo

0.20

Small Fab

INSTALL HELI-COIL FLUSH AS PER DWG AND NOTE 9

TORQUE BOLT TO 160-190 in LBS, AS PER DWG NOTES 8

120

QC5- Inspect part completeness to step on W/O

0.00

120

QC

Memo

0.02

Quality Control

DAS
38
9-80

~~ALLG 10 2016~~

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐									
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval					
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval					
Root Cause		FAULT CATEGORY											
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐				Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐				Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
		OTHER : _____											

Work Order ID 146133

Friday, May 06, 2016 9:00:24 AM

146133

Page 2

Item ID: D5238-043 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Lower Bracket, Aft
 Start Date: 5/3/2016 Start Qty: 2.00 ***2*** Cust Item ID:
 Required Date: 5/5/2016 Req'd Qty: 2.00 ***2*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location ST450	0.00				Counts 2	PC		AUG 11 2016
130	Packaging	0.02							
Packaging	Memo								
140	QC21- Final Inspection - Work Order Release	0.00							
140	QC	0.20							16/8/11
Quality Control	Memo								Stk

AUG 11 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval			
Description Work Order Deviation				Disposition				Completed By			
Root Cause				FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER : ☐											

Friday, May 06, 2016 9:00:24 AM

146133

D5238-043

Start Date: 5/3/2016

Required Date: 5/5/2016

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 15.05.21 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D5237-1		Manufactured	No				Each	11.0000		2			
D5237-1 Bracket													
				<u>Location</u>			<u>Loc Qty</u>			<u>Loc Code</u>			
				ST451			11						
				140587			11						
D5245-5		Manufactured	No				Each	22.0000		2			
D5245-5 Mounting Bolt													
				<u>Location</u>			<u>Loc Qty</u>			<u>Loc Code</u>			
				GA			19						
				141132			19						
				prelim			3						
				132998			2						
				134770			1						
MS21209-F610		Purchased	No				Each	25.0000					
MS21209-F610 Heli-Coil													
				<u>Location</u>			<u>Loc Qty</u>			<u>Loc Code</u>			
				ST296			25						
				m134294			25						

DQA: _____ Date: _____



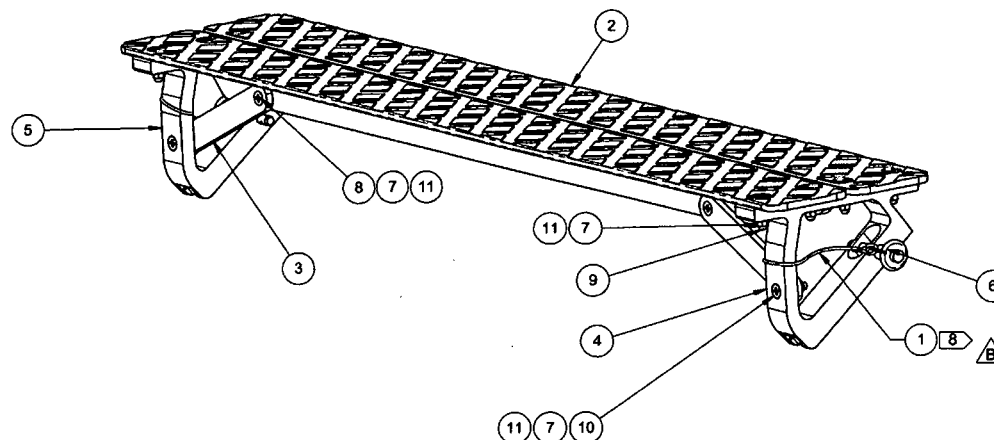
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐									
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval					
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval					
Root Cause		FAULT CATEGORY											
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐				Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐				Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
		OTHER : _____											

ITEM	QTY	P/N	DESCRIPTION
	X	D5238-041	MAINTENANCE STEP ASSEMBLY
1	2	D2690-6	LANYARD ASSEMBLY
2	2	D4092-1	MAINTENANCE STEP
3	2	D4093-5	BRACKET
4	1	D5237-5	BRACKET
5	1	D5237-7	BRACKET
6	2	MS17984-C410	PIN, QUICK RELEASE
7	12	MS21042L3	NUT, SELF-LOCKING
8	2	MS24694-S54	SCREW, CSK 100*
9	8	MS24694-S55	SCREW, CSK 100*
10	2	MS24694-S56	SCREW, CSK 100*
11	12	NAS1149D0332J	WASHER



D5238-041 MAINTENANCE STEP ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 5.00 lbs
- 8) ASSEMBLE D2690-6 LANYARD ABOVE D4093-5 BRACKET



RELEASED
2015-12-07
EN 15-649

APPROVED

B	REVISE LANYARD LOCATION, ZN B2-1, B2-2, A8-1, A8-2	VS	15.10.16
A	NEW ISSUE	VS	15.04.06
REV.	DESCRIPTION	BY	DATE
DESIGN	VS		
DRAWN	VS		
CHECKED	RF		
MFG. APPR.	JLM		
APPROVED	HS		
DE APPR.	DS		
DATE	15.10.16		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D5238** REV. B
SHEET 1 OF 6

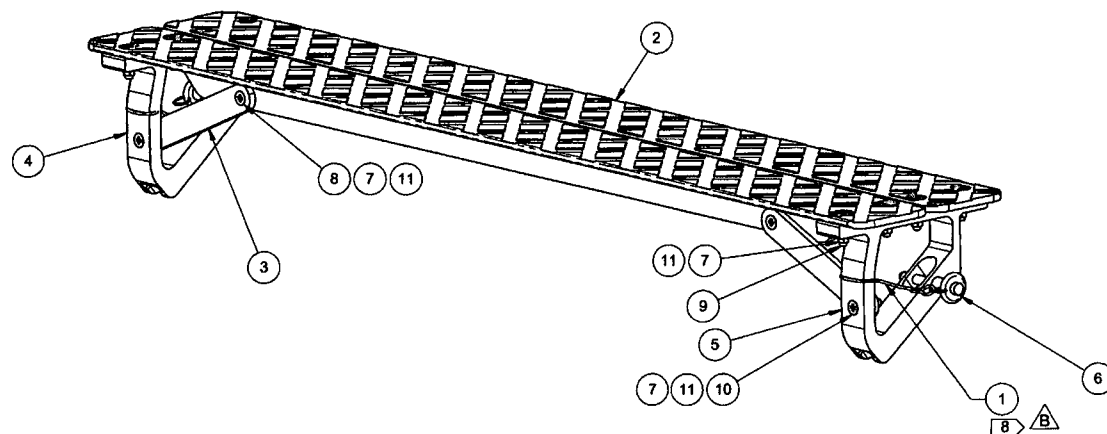
TITLE **MAINTENANCE STEP ASSY** SCALE NTS

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w/o 146133

2m 16/05/09

ITEM	QTY	P/N	DESCRIPTION
	X	D5238-042	MAINTENANCE STEP ASSEMBLY
1	2	D2690-6	LANYARD ASSEMBLY
2	2	D4092-1	MAINTENANCE STEP
3	2	D4093-5	BRACKET
4	1	D5237-5	BRACKET
5	1	D5237-7	BRACKET
6	2	MS17984-C410	PIN, QUICK RELEASE
7	12	MS21042L3	NUT, SELF-LOCKING
8	2	MS24694-S54	SCREW, CSK 100*
9	8	MS24694-S55	SCREW, CSK 100*
10	2	MS24694-S56	SCREW, CSK 100*
11	12	NAS1149D0332J	WASHER



D5238-042 MAINTENANCE STEP ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 5.00 lbs
- 8) ASSEMBLE D2690-6 LANYARD ABOVE D4093-5 BRACKET

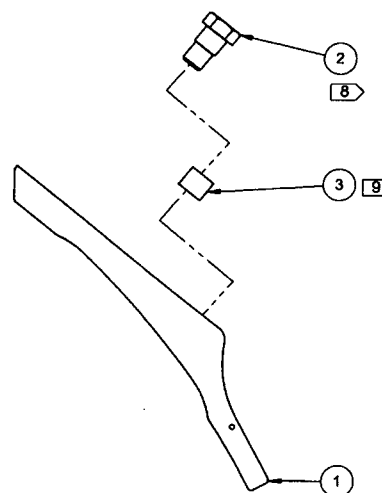


RELEASED
2015-12-07

APPROVED

DESIGN	VS	DART AEROSPACE LTD	
DRAWN	VS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	JLM	D5238	SHEET 2 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	MAINTENANCE STEP ASSY	NTS
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ITEM	QTY	P/N	DESCRIPTION
	X	D5238-043	LOWER BRACKET, AFT
1	1	D5237-1	BRACKET
2	1	D5245-5	MOUNTING BOLT
3	1	MS21209F6-10	HELI-COIL, LOCKING



D5238-043 LOWER BRACKET, AFT

NOTES:

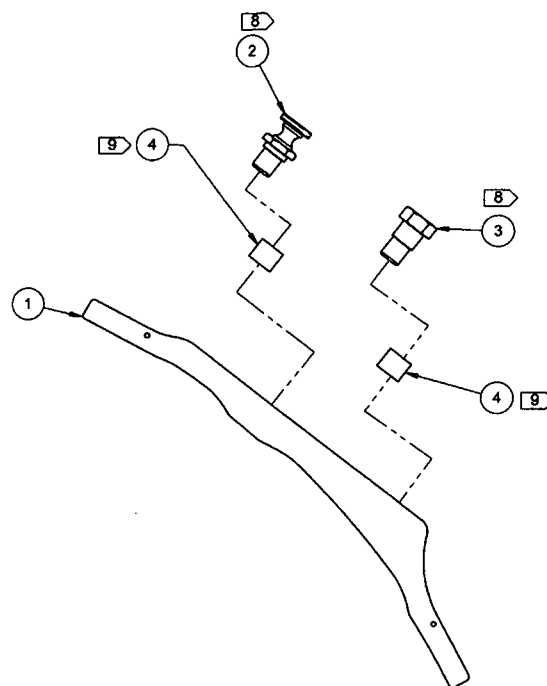
- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 0.35 lbs
- 8) TORQUE UP TO 160-190 in-lb (18.1-21.5 N-m)
- 9) INSTALL FLUSH WITH SURFACE, MAX 0.030" DEEP

RELEASED
2015-12-07

APPROVED

DESIGN	VS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VS		
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	JLM	D5238	SHEET 5 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	MAINTENANCE STEP ASSY	NTS
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ITEM	QTY	P/N	DESCRIPTION
	X	D5238-045	LOWER BRACKET, FWD
1	1	D5237-3	BRACKET
2	1	D5245-3	MOUNTING BOLT
3	1	D5245-5	MOUNTING BOLT
4	2	MS21209F6-10	HELI-COIL, LOCKING



D5238-045 LOWER BRACKET, FWD

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 0.52 lbs
- 8) TORQUE UP TO 160-190 in-lb (18.1-21.5 N-m)
- 9) INSTALL FLUSH WITH SURFACE, MAX 0.030" DEEP

RELEASED
2015-12-07

APPROVED

DESIGN	VS	DART AEROSPACE LTD	
DRAWN	VS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	JLM	D5238	SHEET 6 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	MAINTENANCE STEP ASSY	NTS
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